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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/591,919 | 09/06/2006 | Hirokazu Taniguchi | 52433/860 | 5382 |

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| EXAMINER | |
|---|---|
| LEE, REBECCA Y | |
| **ART UNIT** | **PAPER NUMBER** |
| 1793 | |
| **MAIL DATE** | **DELIVERY MODE** |
| 01/05/2010 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/591,919 | TANIGUCHI ET AL. | |
| | Examiner | Art Unit | |
| | REBECCA LEE | 1793 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *23 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) *1-3* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/06/06, 02/14/08, 11/06/09, 11/23/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election of Group II, claims 4-10 in the reply filed on 11/23/09 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 1-3 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/23/09.

### *Information Disclosure Statement*

The information disclosure statement filed 11/23/09 lists NPL document (Japanese Office Action dated October 20, 2009). However, no translational copy has been submitted for the examiner to determine the relevance of the document. Accordingly, it has been placed in the application file, but the information referred to therein has not been considered.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-5 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizutani et al. (JP 2003239040) in view of Kashima et al. (JP 06108152).

Regarding claims 4 and 7, Mizutani et al. disclose a method to produce a hot-dip-galvanized high strength steel sheet with a composition identical to the instant invention, in mass%, as shown below (abstract and claim 3):

| Element | Instant claims | Mizutani et al. |
|---|---|---|
| C | 0.01-0.3 | 0.01-0.3 |
| Si | 0.005-0.6 | 0.005-0.3 |
| Mn | 0.1-3.3 | 0.1-3.3 |
| P | 0.001-0.06 | 0.001-0.6 |
| S | 0.001-0.01 | 0.001-0.01 |
| Al | 0.25-1.8 | 0.25-1.8 |
| N | 0.0005-0.01 | 0.0005-0.01 |
| Mo | 0.05-0.5 | 0.05-0.5 |
| Fe | balance | balance |

Mizutani et al. further teach the method to produce a hot-dip-galvanized high strength steel comprises hot rolling, cold rolling a slab with the above composition, heating the sheet in a molten zinc plating (hot-dip galvanization heating step) to a temperature of Ac1 to Ac3+100°C, holding for 30 seconds to 30 minutes, then cooling by a cooling rate of 1°C/s or higher to less than 600 °C, then hot dip galvanizing at that temperature (sections 0008 and 0015). One of ordinary skill in the art would have expected the steel sheet to be cooled to room temperature (below 100°C) as claimed. Mizutani et al. also discloses the steel sheet comprise martensite obtained by quenching (section 0013), one of ordinary skill in the art would have expected the cooling rate of the sheet is greater than 5°C/s as claimed.

Mizutani et al. do not expressly teach the claimed tempering step (holing at 200-500°C for 1 second to 5 minutes).

Kashima et al. teach a similar method of producing a hot-dip-galvanized high strength steel, with a similar composition, comprises a tempering step, i.e., holding the sheet at 460 °C for 5 seconds, during the final cooling step (figs 1-3).

It would have been obvious to one of ordinary skill in the art to incorporate the tempering step of Kashima et al. into the process of Mizutani et al. in order to obtain tempered martensite structure and improve the tensile strength of the steel sheet as taught by Kashima et al. (sections 0001 and 0004).

In addition, with expected the recited feature of "excellent in shapeability and hole enlargement ability" in preamble, and the claimed area rate of ferrite and tempered martensite, since the claimed process would be obvious over Mizutani et al. in view of kashima et al., such properties would have been expected.

Regarding claim 5, Mizutani et al. disclose the process further comprises alloying treatment (section 0008).

Regarding claim 8, Mizutani et al. teach the same relationship between the mass% of Si and Al and a target tensile strength as claimed (abstract).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizutani et al. (JP 2003239040) in view of Kashima et al. (JP 06108152) as applied to claim 4 above, and further in view of Kobayashi et al. (US 6423426).

Mizutani et al. in view of Kashima et al. do not expressly teach the claimed post treatment, such as resin coating, after galvanization.

Kobayashi et al. teach a hot-dip-galvanized steel sheet would be further treated by resin coating (Column 9, lines 26-31).

It would have been obvious to one of ordinary skill in the art to further treat the a hot-dip- galvanized steel sheet of Mizutani et al. in view of Kashima et al. by resin coating as taught by Kobayashi et al. in order to reform its shape or adjust surface-roughness as taught by Kobayashi et al. (Column 9, lines 26-31).

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizutani et al. (JP 2003239040) in view of Kashima et al. (JP 06108152) as applied to claim 4 above, and further in view of Deguchi et al. (JP 05331537).

Regarding claim 9, Mizutani et al. in view of Kashima et al. do not expressly teach the preplating step as claimed.

Deguchi et al. teach a galvanized steel sheet would be preplating by iron to 0.5-2.0 $g/m^2$ per surface of the steel sheet after cold rolling and before hot-dip galvanization (section 0007 and table 1).

It would have been obvious to one of ordinary skill in the art to incorporate the preplating step of Deguchi et al. into the process of Mizutani et al. in view of Kashima et al. in order to achieve good plating nature (plating wetability, alloying treatment nature) as taught by Deguchi et al. (section 0007).

Regarding claim 10, Mizutani et al. teach the process further comprises pickling (section 0015).

## *Conclusion*

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA LEE whose telephone number is (571)270-5856. The examiner can normally be reached on Monday-Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROY KING can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./
Examiner, Art Unit 1793

/Roy King/
Supervisory Patent Examiner, Art Unit 1793